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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/791,326

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James J. Wang

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EXAMINER

HELM, CARALYNNE E

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/791,326	Applicant(s) WANG ET AL.	
	Examiner CARALYNNE HELM	Art Unit 1615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 July 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 25,28 and 35-47 is/are pending in the application.
- 4a) Of the above claim(s) 37-47 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 25,28,35 and 36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive since the change in the grounds of rejection was not necessitated by the claim amendment filed February 3, 2009; therefore, the finality of that action is withdrawn. The current office action recapitulates the rejections presented in the last Office action but is a non-final rejection to allow applicants ample opportunity to respond to the new grounds of rejection.

Election/Restrictions

To summarize the current election, applicant elected Group II drawn to a hybrid silicone composite powder composition. Based upon this election, claims drawn to methods of preparation, silicone gels, glycerine gels, and topical cosmetics, claims 37-47, are withdrawn from consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected inventions, there being no allowable generic or linking claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

The four factual inquiries of *Graham v. John Deere Co.* have been fully analyzed and considered in the rejections that follow.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 25, 28, and 35-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Finberg (previously cited) in view of Halloran et al. (previously cited), Muramoto et al. (US Patent No.5,115,020) and the KSP Series Product Brochure (2000).

Finberg teaches a particle composition composed of an interpenetrating network of at least two polymers that are not crosslinked to each other (see page 2 lines 5-7; instant claim 25). Further Finberg teaches that the composition can be formed via suspension, yielding small (spherical) particles, or formed into beads (see page 3 lines 11-14; instant claim 25). The invention is taught to include polydimethylsiloxane as one polymer and the second polymer is not limited to any particular polymer (see page 4 lines 17-20 and 28-29; instant claim 25). Finberg does go on to teach the proportion of the polydimethylsiloxane to the other polymer in the system to be approximately 1:1 (see table 1; instant claim 28). Although a particular particle dimension is not specifically taught by Finberg, one of ordinary skill in the art would have found it obvious to optimize this parameter as a matter of routine experimentation in order to address the end-use needs of the product. The preparations of Finberg are envisioned to come into contact with human tissue when in use (see page 6 lines 46-49). Finberg does not teach polymethylsilsesquioxane specifically as the second polymer.

Muramoto et al. teach particles of semi and fully interpenetrating networks composed of two polymers that are freely selected and are not crosslinked to one another (see column 1 lines 40-50 and column 3 lines 11-18). These particles are taught to be prepared by emulsion polymerization and envisioned for cosmetic use (see column 3 lines 39-66 and column 4 lines 2-8; instant claim 25). Further these presumably spherical particles are taught to be between 1 and 10 microns (see examples 2, 3 and 4; instant claim 25).

The KSP Series Product Brochure teaches spherical silicone powders that are composed of two silicone based polymers, poly(dimethylsiloxane) (PMS) and poly(methylsilsesquioxane) (PMSQ) (Note: INCI name for the particle material is vinyl dimethicone/methicone silsesquioxane crosspolymer - vinyl dimethicone contains PMS and methicone silsesquioxane is the same as PMSQ) (see page 2 and page 3). The particles size is taught to be between 2 and 10 microns for two of the varieties that were available (see page 3). In addition these particles are taught to swell in silicone fluid and are taught in cosmetic compositions. Furthermore these particles are taught for the “soft, silky feel” they impart to compositions (see page 1).

Halloran et al. establishes basic knowledge that was available to one of ordinary skill in the art at the time of the invention regarding interpenetrating networks. Specifically they provide the general teaching that interpenetrating polymer networks provide a mechanism in addition to physical blending and copolymerization, to physically combine different polymers (see column 8 lines 30-38). Further, in their invention Halloran et al. teach the presence of a silsesquioxane polymer in an interpenetrating network (see column 4 lines 11-25; instant claim 25).

The combination of PMS and PMSQ in a single spherical particle between 2 and 10 microns, intended for cosmetic use, and known for the smooth skin feel it conferred was known at the time of the invention. In addition the organization of two polymer networks as an interpenetrating network in a single particle intended for cosmetic use was also known and desirable at the time of the invention. Although, Finberg allows the incorporation of any other polymer with PMS in his taught interpenetrating polymer

particles, Muramoto et al., Halloran and the KSP Series Product Brochure establish the motivation to select PMSQ as the second polymer and a reasonable expectation of success for its incorporation and applicability in a cosmetic application. Since an interpenetrating network is one of a limited number of ways to combine two polymers in a single particle, PMS and PMSQ were known to be combined in a single particle and each was known in interpenetrating networks, it would have been obvious to one of ordinary skill in the art at the time of the invention to select PMSQ as the second polymer in the invention of Finberg and size them between 2 and 10 microns

Instant claims 35-36 are product-by-process claims that add no structural limitations to the claimed product. According to MPEP 2113, “[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.’ In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).” Thus the limitations of these claims are automatically met when the limitations of the actual product are met (e.g. instant claim 25). Therefore claims 25, 28 and 35-36 are obvious over Finberg in view of Muramoto et al., Halloran and the KSP Series Product Brochure.

Response to Arguments

Applicant's arguments, filed July 9, 2009 have been fully considered are not persuasive.

Applicant's arguments regarding the previously cited references are moot in light of the new grounds of rejection.

While the examiner appreciates the additional discussion provided by Dr. Wang regarding emulsion polymerization, his arguments are not persuasive in distinguishing a solid polymer particle produced by suspension polymerization over emulsion polymerization. Applicant's claims are drawn to a product-by-process and it is noteworthy that "emulsion polymerization" itself is not specifically recited. Nevertheless, applicants have consistently argued that this production process distinguishes the instant invention from that made by Finberg. As Dr. Wang has noted and one of ordinary skill would have also known, there are differences between the process of suspension polymerization and emulsion polymerization; however, it is unclear why both processes are not capable of generating spherical particles of interpenetrating networks between 2 and 10 microns in size. The susceptibility of one of the monomers to hydrolysis is given as one reason why suspension polymerization is not capable of producing product of the invention. Although suspension polymerization is often performed with water, it is not a strict requirement. Zhu (Macromolecules 1996 29:2813-2817) teaches non-aqueous solvents as universal suspension polymerization media specifically for monomers that are not readily polymerized in aqueous medium (see page 2813 column 1 paragraphs 1 and 2). One of ordinary skill would have been

Art Unit: 1615

aware of the susceptibility of the required monomers to hydrolysis and therefore selected a solvent for the polymerization that was most amenable to the polymer formation. The second reason for precluding the use of suspension polymerization was that it was not capable of producing particles 2 to 10 micros in diameter. Blondeau et al. (Reactive and Functional Polymers 1995 27:163-173) teach the preparation of particles 2 to 10 microns in diameter via suspension polymerization where ultrasound is used to generate the suspension (see abstract, page 164 column 2 paragraphs 1 and 2 and figure 2). Thus particles sized the same as those of the invention were able to be made via suspension polymerization at the time of the invention. Finally, in light of the references currently cited that also teach emulsion polymerization as a means by which to product particles between 2 and 10 microns of two interpenetrating polymer networks, the invention as claimed would have been obvious to one of ordinary skill in the art at the time of the invention.

Conclusion

No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CARALYNNE HELM whose telephone number is (571)270-3506. The examiner can normally be reached on Monday through Thursday 8-5 (EDT).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Woodward can be reached on 571-272-8373. The fax phone

Art Unit: 1615

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Caralynne Helm/
Examiner, Art Unit 1615

/MP WOODWARD/
Supervisory Patent Examiner, Art Unit 1615